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Revitalization and Sustainability of Historic Tombs with Their Neighbourhood: A case from Turkey

Gülşen Dişli

Necmettin Erbakan University, Faculty of Engineering and Architecture, Department of Architecture, Köyceğiz Campus, Dere Aşıklar Mah. Demeç Sok. No: 42/A, 42140, Meram, Konya, Turkey

Corresponding author: **disli001@umn.edu**

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Historic tombs are important buildings in our architectural legacy both in terms of their tangible and intangible values. Hence, they are among the monuments preserved by Turkish government's related bodies, providing substantial grants for the preservation of these buildings. This study examines a 16th century historic tomb, Karyağdı Sultan Tomb, located in a congested area in Ankara, Turkey. Although the tomb is at the hearth of the city and can be reached easily, it is not much known and visited by the community because of the unplanned constructions mostly used for commercial purposes surrounding and hiding the building. The objective of this study is to investigate sustainability potentials and develop revitalization suggestions of the tomb and its neighbourhood appropriate to the environmental, cultural, and social values of the region by means of need analysis, field works, and interviews with the local community. Overall, the study findings suggest that thanks to the appropriate sustainable solutions for the development of the neighbourhood and existing built heritage with regard to community, neighbourhood, and building context, visiting capacity and recognition of the tomb and the area can be increased substantially. Hence the research formulated several holistic sustainable preservation suggestions, and recommended further studies in order to realize the potentials of sustainability evident.

Keywords: holistic preservation, Karyağdı Sultan Tomb, revitalization, sustainability, Turkey.

Introduction

Cultural heritage and its sustainable development is an important part of towns and cities. Hence, preservation of existing buildings should be more than architectural preservation of individual building component, instead, it should include need analysis, functionality survey, and further usage opportunities together with its neighborhood, taking into account of environmental, social, and economic factors of sustainability. As Carroon (2010; 17) notes, in sustainable building renovations, there is a need for holistic design. Chusid (2010; 43) further argues that existing structures have already valuable sustainable characteristics in their very nature, and in order to address the importance of the issue to the next generations it should be thought in college level preservation programs. Hence, this paper, developed as part of a preservation course, examines the sustainability opportunities of a 16th century historic tomb called as Karyağdı Sultan Tomb, and its nearby surrounding located in Ankara, Ulus district. The purpose of the research was to determine the current context of the survey area and the building in terms of community, neighborhood, site, and building components, aiming to develop strategies for their sustainable improvement. Therefore,

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it begins by examining the current condition of the building, and its neighborhood. Then, taking into account the survey results and fieldworks on the case study, this is followed by alternative sustainable design suggestions developed for the building and the site contributing to the satisfaction of human needs and revitalization of the neighborhood.

The redevelopment suggestions of the site, surrounding Karyağdı Sultan Tomb provide an interesting case study to discuss the intertwined relation of built heritage and sustainability. There are studies related to the architecture and history of the building (Gülekli, 1949, 70; Öz, 2008, 100; Öney, 1971, 118-9; Kırpık et al. 2015, 425-8; Türkiye'de Vakıf Abideler ve Eski Eserler, c. 1, 1983, 451-2; Erdoğan et al., 2007, 250-3) and archival documents regarding the previous period restoration interventions (Archives of Directorate General of Foundations). Among them Gülekli's (1949, 70) research includes an overview of Ankara tombs and gives rather limited information on the condition of Karyağdı Sultan Tomb at that date. Öz (2008, 100) counts the tomb among some important Turkish-Islamic period buildings of Ankara, and gives information about its architecture. Öney's (1971, 118-9, 386) research describes the building in more detail including plan and section drawings. Tanyu (1967, 75-7), on the other hand, gives valuable information on the intangible heritage value of the tomb and explains its importance in terms of votive culture in Ankara.

Although, all this existing literature tends to focus on architecture and history of the building, none of it tended to address the issues of sustainable development of the building with its nearby surrounding. Hence, the study is significant in terms of providing sustainability suggestions on revitalization of the area rather than suggesting mere restoration interventions in single building scale. The scope of the research was limited with the site that the tomb is located and sustainable design suggestions have been developed for that area only.

Primary limitations of the study during sustainable design suggestions were; first, regarded with the location of the tomb which is rather a congested area with lots of traffic, second, its being surrounded with commercial buildings and stores, and third, previous period interventions around the periphery of the tomb causing it to be less visible.

Methods

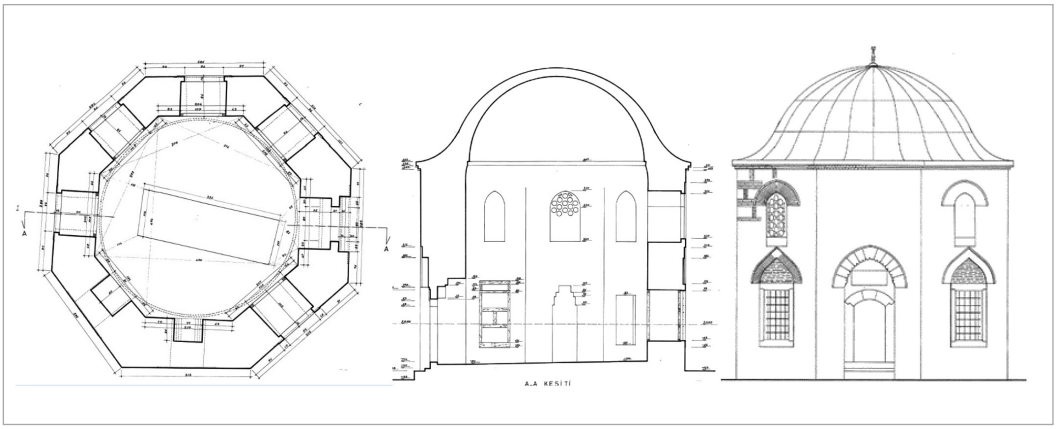
Fieldwork, public survey, historic, and archival research have been the primary methods used during this research. The study has been developed as part of "Preserving the Architectural Heritage" course given at Atılım University in 2017-2018 Fall Semester. As part of the course, the author led research teams consisted of third and fourth year undergraduate architecture students to conduct a public survey with the users of the tomb and with the nearby storekeepers in order to help determine the basic needs of the area and human needs, as well as to collect relevant environmental, social, and economic background information. The survey was used for need analysis for sustainability design process and included the questions such as; respondents' opinions about the current appearance and quality of the built heritage and its surrounding, purposes in visiting the survey area, opinions about what kind of function is to be given to the site that the tomb is located and thus would constitute positive intervention. Then, sustainability decisions of the area have been developed taking into account of public survey results and the fieldworks.

Karyağdı Sultan Tomb and Its Nearby Periphery

Built in 985 H.-1577/8, Karyağdı Sultan Tomb is designed in Classical Ottoman polygonal tomb style with an octagonal plan type (Fig. 1). It is one of the oldest religious buildings in Ankara, Turkey, located in Misakimilli District, Sanayi Street, at 165/14 parcel. According to its inscription panel the tomb was built for a young woman passed away at an early age (Erdoğan at. al, 2007, 253). The exterior facades are constructed with composite alternative horizontal bonds of one-row of stone and tree-rows of brick and one vertical brick between each stone on the vertical plane (Fig. 2). The tomb is covered with a dome built with brick material which is covered with lead and ended with a copper-finial. There are two-rows of brick eaves at the top level

Fig. 1

Survey drawings of plan (left), section (centre), and east elevation of the tomb (right) (Archives of Directorate General of Foundations)



of main body walls providing transition to the dome and at the same time rain water drainage of the dome. The tomb has six rectangular windows with iron fences and with pointed arched pediments at the first level, and seven arched windows at the second level. Entrance to the dome is provided by means of a flattened-arched door on the east façade, and there is a four-row of inscription panel just above it. As for the immediate surrounding periphery of the tomb, as shown in Fig. 2, circa at the first half of the 20th century, immediate surrounding of the tomb seemed to be an open area, and the tomb used to be perceived with its full height by the passer-by. There were some one or two story traditional buildings with or without a basement at the nearby district of the tomb.

Fig. 2

Old photos of the tomb circa at the first half of the 20th century-general view (left) and a view from the east façade (right) (Archives of Directorate General of Foundations)

According to its title deed, the owner of the building has been Directorate General of Foundations (DGF) since 1988. It was restored by DGF at that date, and its surrounding periphery by the Municipality in 1993, during which a four-story building was constructed on the north east side of the tomb (Fig. 3). Today, as a result of wrong public improvements, developments and regional planning strategies, the tomb could hardly be perceived among the concrete buildings (Fig. 4). There is a kiosk and wooden seats at the nearby periphery of the tomb with some shading trees, one of which has recently been cut, and the whole parcel that the tomb is located is paved with stone without any greenery.

Fig. 3

A view from the west façade of the tomb with the construction of a new building on the northeast side in 1993 (Archives of Directorate General of Foundations)

Fig. 4

Current condition of the tomb and its periphery (Photo archives of the author, 2017)

Findings and Discussion

The research aimed at addressing sustainability and preservation issues within a neighbourhood context by examining a historic tomb and its neighbourhood to be made "greener" while preserving the qualities that give them cultural significance. The research consisted of identification of historic properties, consideration of sustainability features in terms of community, neighbourhood and building context, examination of potential energy-saving treatments, and consideration of the full range of options for "greening" the building and the neighbourhood. Final design strategies present recommendations for sustainability of each while meeting preservation standards.

Current Context and Strategies for improvement

The community context

According to the survey results and fieldworks, it is understood that the tomb has been visited mostly by female visitors mainly to make a wish as part of votive culture. Writings and scrapes on the wall surfaces of the tomb related to the Godly wishes of the user community also prove that purpose. Retired old people and the ones shopping from the nearby stores are also among the users of the site. Public survey showed that, especially female users find the periphery of the tomb rather haunted, lacking of proper landscaping and sitting arrangements, and prefer to use the area more actively not just for religious visit but also as a public meeting square. Hence, basic needs of the area have been determined to be improving the look of the area, proper landscaping, seating

compositions, information boards about the historic building and votive culture, workshops, exhibitions, kiosks, units for sales of works, and integrating the religious built heritage with the nearby historic buildings by means of planning touristic routes.

Strategies for improvement:

- Preserve the memory of past events by means of strengthening spiritualty and votive culture,
- Connect to local people,
- Establish women's group,
- Widen and bring the community together in unique ways by providing a gathering and meeting place and creating a blog, newsletter, or more comprehensive website,
- Contribute to the economic livelihood of the neighbourhood and community,
- Promote safety and equity.

Neighbourhood and site context:

Nearby attractions and resources: Karyağdı Sultan Tomb and its neighbourhood: Mixed use- commercial and industrial, economic area (stores, trade and shopping areas- higher density trade development areas along the edges of the tomb), historic significance (placed in a historic district: Hacı Bayram-ı Veli Mosque and Augustus Temple, Ahi Elvan Mosque, Ahi Serafeddin Mosque, Zincirli Mosque, Cenab-ı Ahmet Pasha Mosque, Melike Hatun Tomb, Synagogue, Rahmi Koc Museum, Ankara Castle, historic Republic Street and Republic Period historic buildings on that axis, and many more), public parks (Youth Park, Hisar Park), access to transition (quite near to the bus stops, subways, and railway station) (**Fig. 5** and **Fig. 6**).

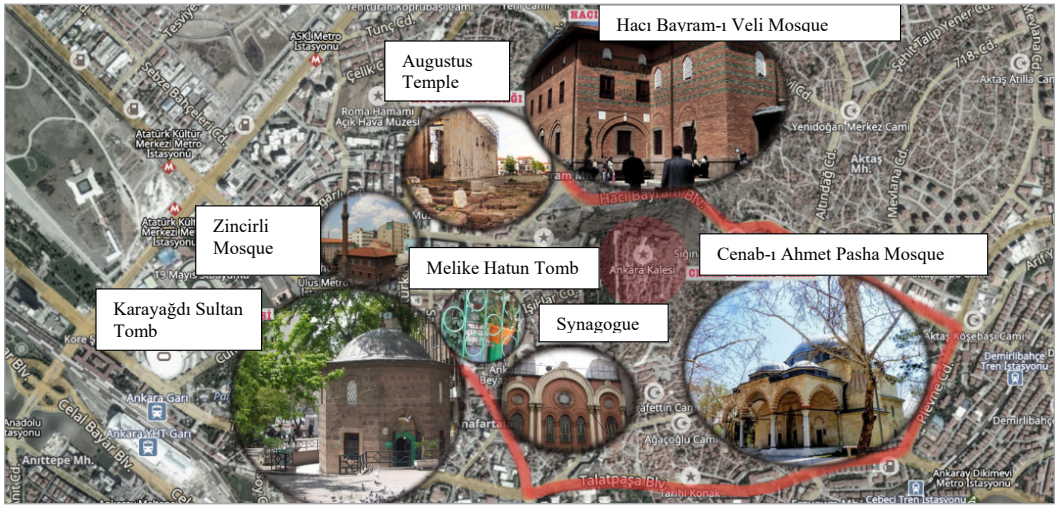


Fig. 5

Nearby neighbourhoods and neighbour attractions and resources (Source: https://maps.google.com/)

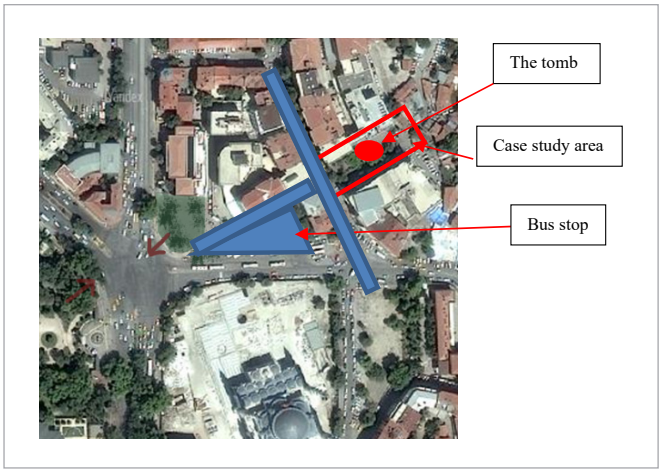


Fig. 6

Location of the tomb (Source: https://maps.google.com/)

Strategies for improvement:

- Organize "Architectural History Tours of Ulus District" where the building and site is located,
- Make the tomb and the site more usable and available for everyone,
- Maintain current and create more natural habitats for birds, dogs, and cats around the tomb,
- Replace paved area around the tomb with a permeably-paved green space for rest, social, and leisure activities,
- Capture rainwater runoff, provide native plantings, and permeable pavers,
- Preserve existing trees along the site and plant new shading trees that will grow to be large,
- Remove the bus stop, which is rather near to the tomb, and improve pedestrian amenities along the roads, leading to the site, including pedestrian scale lighting, street furniture, signage, and green space while maintaining the historic character of the district,
- Ensure ramp to access the site and the tomb.

Building context:

Physical Attributes: Example of Classical Ottoman octagonal tomb style, arched windows, arched entrance, at the first floor rectangular wooden windows with iron fences, dome with lead covering, brick eaves, main body walls' construction materials: stone and brick, use of natural ventilation, daylighting, and heating. Yet, according to fieldworks, current heating and cooling systems, provided either by passive natural ways or with portable devices, are inadequate for year-round comfort, hence, survey results showed that visitors prefer to have more adequate comfort conditions. The building is rather well-lit, but there are so many artificial lighting, and windows require extra attention.

Strategies for improvement:

Building maintenance, operational sustainability:

- Collect and redirect rainwater runoff, recycle and compost, use green cleaning products for cleaning staff, monitor cracks in masonry, and fill stable cracks,
- Clean existing window frames and apply water based wood paint for the first floor windows, clean the exterior iron fences, remove the rust and then apply painting,
- Reduce the number of artificial lighting apparatus,
- Reseal gaps between walls and window frames,
- Replace broken glass,
- Remove cement based repointing and replace with lime based ones,
- Use portable space heaters to heat the building during the winter.

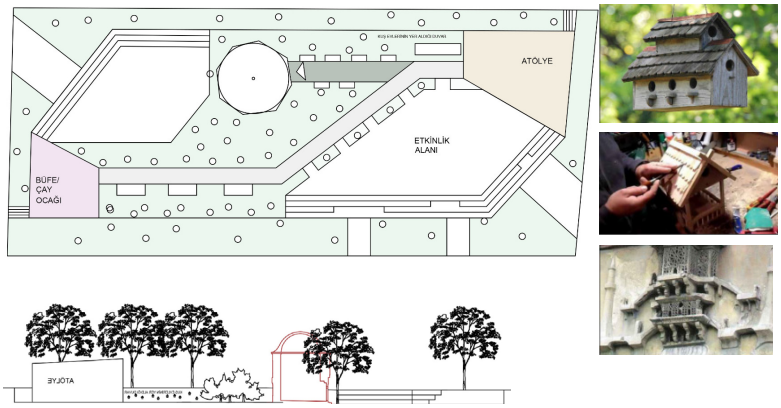
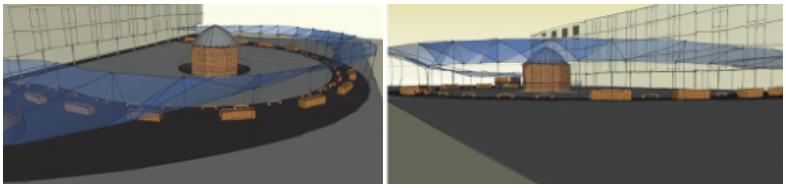
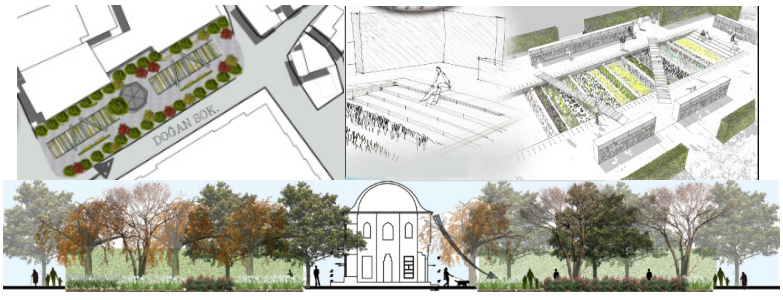
Holistic Sustainability

With considerable work and investment, Karyağdı Sultan Tomb, as it stands, can be transformed into a sustainable non-profit model and building for the 21st century. However, true sustainability must extend beyond the building, reaching out into the neighbourhood to improve the social and economic aspects of Ulus District. By adding more greenery, walking paths, and sitting arrangements, as well as making partnerships with other local groups, the tomb can become a locus for neighbourhood connectivity. By making the building more open to the public, it can become a social and economic amenity for the community through value added programming. In these ways, the tomb can move beyond simply being a 'green building' and become truly, holistically sustainable. Main opinions of the users' visiting the site included; safety precautions, decrease in traffic load, preservation of the tomb, more greenery, sitting arrangements, kiosks, enhancement of traditional customs, workshop organizations, use of technology to increase the publicity of the

neighbourhood, and environment and animal friendly site planning. Hence considering the users' opinions and need analysis in terms of community, neighbourhood, and building context, main design ideas developed by "Preserving the Architectural Heritage" students and the faculty for the case study area have been outlined in **Table 1**.

Table 1

Main design ideas developed for the case study area. Plan, section, and illustrative drawings haven been prepared by Bilal Uğur Liman, Ceyda Dandinoğlu, Türkan Görkem Helvacıoğlu, and Işıl Esen

Design strategies/ideas	Drawings and illustrations showing the design scheme/ idea for the study area
_ Site development. _ Designing info platforms, kiosks, and sitting areas: resting on the stairs around the tomb. _ Learning about religious and votive culture and tomb architecture in the region.	 Theme 1. "Meeting, Learning, and Resting"
_ Designing exhibition, activity, and meeting space with greenery, sitting platforms, wood workshop, bird houses, stairs, and wooden seats. _ Considering the birds all around the tomb, bird houses will be located on the wall formed via level differences.	 Theme 2. "Animal Friendly Environments"
_ Social market place with a cover having water collection roof geometry and acting as a shading device. _ Revitalization of the area by means of women accession and units for sales of works.	 Theme 3. "Shading Canopies"
_ Public meeting area with trees and sitting units around the tomb, greenery will form a cutting edge between the tomb and stores and roads. _ Revitalization of votive culture by designing a meeting space for the users.	 Theme 4. "Nature, Visitor and Built Heritage"

Conclusions

The objectives of this research were to examine sustainability potentials and revitalization suggestions of a historic tomb and its neighbourhood, in Ankara, Turkey, a heritage place that sits near a congested commercial area. Hence, the study is beyond mere restoration suggestions for a single scale tomb building, instead aims to increase the current appearance and quality of the built heritage with its surrounding, taking into account the user opinions. Many studies as outlined above have defined the tomb in terms of its architecture. In this research, on the other hand, we the results lied on of environmental, cultural, and social sustainability parameters of the region and the tomb. Eventually, after the study analysis, such as need analysis, field works, and interviews with the local community, mainly four sustainable design schemes have been developed for the users of the area, thus, it is aimed to advance the values of the area from the present state of knowledge towards holistic design solutions. The results of the public survey showed that the study area has been mostly used by the women worshippers, who come to visit the tomb for their Godly wishes. In addition, some retired people, shoppers, and passer-by also visit the building during the day time. According to public survey, the users found the area rather unsecure such that, in late 2017, the lead covering of the tomb was stolen and then the dome was covered with lead again with the financial support of the related governmental institution. Hence, considering the user profile and preferences, the design strategies had to be weighted first to create a secure surrounding for the users of the site, providing a sensitive relationship with the tomb. The results also showed that the users preferred to use the area not just for their religious visit but also as a resting and social meeting point. Therefore, taking into account the public benefits and preferences, and urban, environmental and heritage considerations, the four design proposals were shaped according to the wishes and requests of the users and included homage to the site and the building as well; such as use of reversible design strategies, creating meeting points, and including response to the nature and the environment.

The study also served for increasing the conservation awareness of the architectural students. The design team consulted the current preservation standards in Turkey as well as need analysis, public survey, and fieldworks to come up with a list of recommended sustainable design strategies and solutions in terms of community context, neighbourhood and site contexts, and building context, to be used around existing built heritage that will help convert the neighbourhood's current situation and revitalize the area. Further studies are needed in order to extend the limits of the research area for which sustainability suggestions have been developed to a larger context including whole historic Ulus district.

Acknowledgment

The author would like to thank to the third and fourth year students of Atılım University taking the course "Preserving the Architectural Heritage" in 2017-2018 Fall Semester, who studied the case study area during the lecture. Turkish Republic Directorate General of Foundations also deserves special thanks for sharing its archives related to the case study area with the author.

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About the Author

GÜLŞEN DİŞLİ

Assoc. Prof. Dr.

Necmettin Erbakan University, Faculty of Engineering and Architecture, Department of Architecture

Main research area

Historic preservation, sustainability, functional systems in historic buildings.

Address

Köyceğiz Campus, Dere Aşıklar Mah. Demeç Sok.,
No: 42/A, 42140, Meram, Konya, Turkey
Tel. +90 332 325 20 24
E-mail: disli001@umn.edu